

February 10, 2008

Courtney Feeley Karp
Massachusetts Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

RE: Comments on Final Regulations, 225 CMR 14.00 – 15.00
Renewable Energy Portfolio Standards, Class I and Class II

Dear Ms. Karp:

The Massachusetts Water Resources Authority welcomes the opportunity to participate in the formal rulemaking for the Renewable Energy Portfolio Standards for both Class I and II promulgated as emergency regulations 225 CMR 14.00 and 15.00.

MWRA is excited about the inclusion of hydropower in the Renewable Energy Portfolio Standards. As we noted in our October 17, 2008, we currently capture the energy of falling water at two locations in our water transmission system, Oakdale and the Cosgrove Aqueduct and at one location in our wastewater system, the Deer Island Treatment Plant. At Deer Island, the hydroelectric facility recovers energy from the flow of wastewater as it drops from the treated wastewater effluent channels into a turbine effluent conduit which joins the outfall chute which discharges into the outfall shaft and tunnel. We are also in the design process for additional hydropower projects. This includes the Loring Road Covered Storage Facility in Weston, where we currently use sleeve valves to reduce pressure to safely send approximately 20 million gallons per day of treated drinking water to storage tanks serving parts of our water distribution system; instead of dissipating the energy with sleeve valves; the energy available in this reduction could be recovered by a hydropower turbine-generator.

We would like greater clarity in the regulations to assure that projects such as these are eligible for RPS. We believe that there is some ambiguity in the definition of “Hydroelectric Energy” in section 14.02, which currently reads as:

Electrical Energy from a Generation Unit that uses flowing freshwater as the primary energy source, with or without a dam structure or other means of regulating water flow, and that is not located at a facility that uses mechanical or electrical energy to pump water into a storage facility (i.e., a so-called pumped-storage facility).

While DOER staff have verbally indicated that the intent of the word “freshwater” is meant to refer to water that is not saline, the term “freshwater” is not defined in the regulations. It may become open to interpretation as to whether the energy captured from

falling treated effluent at Deer Island or the treated drinking water at Loring Road is considered fresh. Clearly, it was not the intent of the Legislature to exclude benign hydropower projects such as these from the RPS.

In addition, MWRA believes that the explanation of the term “pumped storage” as it appears in the above-noted definition should reflect either the language used by DEP in its prior guidance under the Water Management Act (see “Water Withdrawal Permit Application and Guidelines WM03, Updated May 2005”), or a pumped storage definition used by the U.S. Energy Information Administration (a section of the U.S. Department of Energy) or similar traditional definitions of pumped storage. As currently written, there might arise some ambiguity. For example, at some point in the wastewater collection and treatment process, wastewater may be pumped to and stored at Deer Island, but Deer Island is not a pumped storage facility in any classic definition of pumped storage.

To address MWRA’s concerns, as well as the concerns of other water and wastewater service providers that either have or are considering similar facilities to generate hydropower in their transmission and collection systems, MWRA suggests that the regulations’ definitions be modified as follows:

Hydroelectric Energy. Electrical Energy from a Generation Unit that uses flowing water in a non-marine environment as the primary energy source, with or without a dam structure or other means of regulating water flow, and that is not located at a pumped storage facility.

Pumped Storage Facility. A facility that withdraws a large quantity of water from a river or large water body and pumps it up-gradient to a reservoir, which is then released back to the same water source, but not necessarily to the same location (DEP 2005); and/or .

Pumped storage hydroelectric plants use the same principle for generation of power as the conventional hydroelectric operations based on falling water and river current. However, in a pumped storage operation, low-cost off-peak energy is used to pump water to an upper reservoir where it is stored as potential energy. The water is then released to flow back down through the turbine generator to produce electricity during periods of high demand for electricity. (Energy Information Administration).

Thank you for the opportunity to comment. If you have any questions, please contact Pam Heidell at (617) 788-1102 or Kristen Patneau at (617) 660-7871.

Sincerely,

Michael J. Hornbrook
Chief Operating Officer

cc: Howard Bernstein, DOER